Amendments To The Claims

The listing of claims presented below will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1. **(Currently Amended)** A method for forming a capacitor of a semiconductor device comprising the steps of:

forming an interlayer insulating film on a semiconductor substrate formed with a bit line;

forming a contact plug in contact with the substrate within the interlayer insulating film,

forming a storage electrode **of polysilicon** on the interlayer insulating film in such a manner that the storage electrode comes in contact with the contact plug,

forming layers of Ta_2O_5 and Y_2O_3 one layer over the other layer in an alternating fashion on the storage electrode according to ALD (Atomic Layer Deposition) technology,

forming a dielectric film ~~composed~~ of a single composite film **having Ta_2O_5 and Y_2O_3** ~~of $Ta_2O_5(X)Y_2O_3(1-X)$~~ on the storage electrode ~~according to ALD (Atomic Layer Deposition) technology~~,

depositing a diffusion barrier film on the dielectric film, and

forming a plate electrode **of polysilicon** on the diffusion barrier film

2. **(Currently Amended)** The method according to claim 1, wherein the step of forming the dielectric film comprises the sub-steps of:

~~repetitively depositing a Ta_2O_5 thin film and a Y_2O_3 thin film in alternation to a predetermined thickness with ALD technology,~~

performing low temperature annealing of the alternately deposited ~~thin~~ films **of Ta_2O_5 and Y_2O_3 converting the deposited films** to ~~convert the thin films into~~ a single composite film,

performing N_2O plasma annealing of the converted single composite film to remove carbon and impurities contained within the single composite film, and

performing furnace annealing of the N_2O plasma annealed single composite film to crystallize the single composite film.

3. (Original) The method according to claim 2, wherein the Ta_2O_5 thin film is deposited to a thickness of less than 10 Å by alternately injecting $Ta(OC_2H_5)_5$ source gas and H_2O reaction gas into a reactor at a temperature of 250 to 350 °C according to ALD technology.

4. (Original) The method according to claim 3, wherein inert gas is injected at a period of time between that of injecting the $Ta(OC_2H_5)_5$ source gas and that of

injecting the H_2O reaction gas so as to leave no residue of the source and reaction gases.

5. **(Currently Amended)** The method according to claim 3, wherein each injection of the $Ta(OC_2H_5)_5$ source gas, the inert gas and the H_2O reaction gas is performed for 0.1 to 10 seconds.

6. (Original) The method according to claim 2, wherein the Y_2O_3 thin film is deposited to a thickness of less than 5 Å by alternately injecting yttrium source gas and H_2O reaction gas into a reactor at a temperature of 250 to 350 °C according to ALD technology.

7. **(Currently Amended)** The method according to claim 6, wherein inert gas is injected at a period of time between that of injecting the yittrium source gas and that of injecting the H_2O reaction gas so as to leave no residue of the source and reaction gases.

8. **(Currently Amended)** The method according to claim 6, wherein each injection of the yittrium source gas, the inert gas and the H_2O reaction gas is performed for 0.1 to 10 seconds.

9. (Original) The method according to claim 3, wherein in the deposition of the Ta_2O_5 thin film and the Y_2O_3 thin film, O_2 or N_2O gas is injected as the reaction gas in place of H_2O.

10. **(Currently Amended)** The method according to claim 4, wherein any one selected from the group consisting of N_2, Ar ~~or~~ **and** He is injected as the inert gas.

11. **(Currently Amended)** The method according to claim 2, wherein the Ta_2O_5 ~~thin~~ films and the Y_2O_3 ~~thin~~ films are repetitively deposited in **an alternating order** ~~alternation up~~ to an overall thickness of 100 to 200 Å.

12. **(Currently Amended)** The method according to claim 2, wherein the deposition ratio between the Ta_2O_5 ~~thin~~ film and the Y_2O_3 ~~thin~~ film is **about 80% : 20%, respectively** ~~X:(1-X)~~.

13. **(Currently Amended)** The method according to claim 2, wherein the low temperature annealing is performed at a temperature **in the range** of 400 to 550 °C.

14. (Original) The method according to claim 2, wherein the N_2O plasma annealing is carried out in a rapid thermal annealing mode in which annealing temperature is 300 to 400 °C, annealing time is 60 to 180 seconds and N_2O gas

flow rate is 10 to 100 sccm.

15. (Original) The method according to claim 2, wherein the furnace annealing is performed at a temperature of 600 to 850 °C for 5 to 60 minutes while N_2, O_2, or N_2O gas flowing in a furnace.

16. (Original) The method according to claim 1, wherein the diffusion barrier film is a TiN film.